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WORLDS OF
SCIENCE FICTION

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Annotation

Also published as *Out from the Sun*.

From Robert Silverberg's "Earthmen and Strangers" anthology, 1966:

Arthur C. Clarke is a true citizen of the world. Where he is at any given moment only his travel agent is likely to know: perhaps in New York conferring with his publishers, perhaps excavating sunken treasure off the coast of Ceylon, perhaps supervising the filming of a movie in London, perhaps studying the cored formations of Australia's Great Barrier Reef, perhaps watching a rocket blasting moonward from Cape Kennedy. He was born in England, but he is at home on any continent, and probably will be found sightseeing on Mars and Venus as soon as commercial service to those ports of call is inaugurated.

As an acknowledged master of science fiction, Clarke's presence in any anthology is almost mandatory. He works within the great tradition of H. G. Wells, combining literary artistry with scientific accuracy to create stories of stirring wonder and breathtaking provocativeness. Here Clarke offers a fitting epilogue for this collection of stories of alien life: a glimpse of a life-form so incredibly strange that we poor mortals can barely begin to comprehend its nature.

- Out of the Sun
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Out of the Sun
by Arthur C. Clarke

If you have only lived on Earth, you have never seen the sun. Of course, we could not look at it directly, but only through dense filters that cut its rays down to endurable brilliance. It hung there forever above the low, jagged hills to the west of the Observatory, neither rising nor setting, yet moving around a small circle in the sky during the eighty-eight-day year of our little world. For it is not quite true to say that Mercury keeps the same face always turned toward the sun; it wobbles slightly on its axis, and there is a narrow twilight belt which knows such terrestrial commonplaces as dawn and sunset.

We were on the edge of the twilight zone, so that we could take advantage of the cool shadows yet could keep the sun under continuous surveillance as it hovered there above the hills. It was a full-time job for fifty astronomers and other assorted scientists; when we've kept it up for a hundred years or so, we may know something about the small star that brought life to Earth.

There wasn't a single band of solar radiation that someone at the Observatory had not made a life's study and was watching like a hawk. From the far X-rays to the longest of radio waves, we had set our traps and snares; as soon as the sun thought of something new, we were ready for it. So we imagined…

The sun's flaming heart beats in a slow, eleven-year rhythm, and we were near the peak of the cycle. Two of the greatest spots ever recorded—each of them large enough to swallow a hundred Earths—had drifted across the disk like great black funnels piercing deeply into the turbulent outer layers of the sun. They were black, of course, only by contrast with the brilliance all around them; even their dark, cool cores were hotter and brighter than an electric arc. We had just watched the second of them disappear around the edge of the disk, wondering if it would survive to reappear two weeks later, when something blew up on the equator.

It was not too spectacular at first, partly because it was almost exactly beneath us—at the precise center of the sun's disk—and so was merged into all the activity around it. If it had been near the edge of the sun, and thus projected against the background of space, it would have been truly awe-inspiring.

Imagine the simultaneous explosion of a million H-bombs. You can't? Nor can anyone else—but that was the sort of thing we were watching climb up toward us at hundreds of miles a second, straight out of the sun's spinning equator. At first it formed a narrow jet, but it

was quickly frayed around the edges by the magnetic and gravitational forces that were fighting against it. The central core kept right on, and it was soon obvious that it had escaped from the sun completely and was headed out into space—with us as its first target.

Though this had happened half a dozen times before, it was always exciting. It meant that we could capture some of the very substance of the sun as it went hurtling past in a great cloud of electrified gas. There was no danger; by the tune it reached us it would be far too tenuous to do any damage, and, indeed, it would take sensitive instruments to detect it at all.

One of those instruments was the Observatory's radar, which was in continual use to map the invisible ionized layers that surround the sun for millions of miles. This was my department; as soon as there was any hope of picking up the oncoming cloud against the solar background, I aimed my giant radio mirror toward it.

It came in sharp and clear on the long-range screen—a vast, luminous island still moving outward from the sun at hundreds of miles a second. At this distance it was impossible to see its finer details, for my radar waves were taking minutes to make the round trip and to bring me back the information they were presenting on the screen. Even at its speed of not far short of a million miles an hour, it would be almost two days before the escaping prominence reached the orbit of Mercury and swept past us toward the outer planets. But neither Venus nor Earth would record its passing, for they were nowhere near its line of flight.

The hours drifted by; the sun had settled down after the immense convulsions that had shot so many millions of tons of its substance into space, never to return. The aftermath of that eruption was now a slowly twisting and turning cloud a hundred times the size of Earth, and soon it would be close enough for the short-range radar to reveal its finer structure.

Despite all the years I have been in the business, it still gives me a thrill to watch that line of light paint its picture on the screen as its spins in synchronism with the narrow beam of radio waves from the transmitter. I sometimes think of myself as a blind man exploring the space around him with a stick that may be a hundred million miles in length. For man is truly blind to the things I study; these great clouds of ionized gas moving far out from the sun are completely invisible to the eye and even to the most sensitive of photographic plates. They are ghosts that briefly haunt the solar system during the few hours of their existence; if they did not reflect our radar waves or disturb our magnetometers, we should never know that they were there.

The picture on the screen looked not unlike a photograph of a spiral nebula, for as the cloud slowly rotated it trailed ragged arms of

gas for ten thousand miles around it. Or it might have been a terrestrial hurricane that I was watching from above as it spun through the atmosphere of Earth. The internal structure was extremely complicated and was changing minute by minute beneath the action of forces which we have never fully understood. Rivers of fire were flowing in curious paths under what could only be the influence of electric fields; but why were they appearing from nowhere and disappearing again as if matter was being created and destroyed? And what were those gleaming nodules, larger than the moon, that were being swept along like boulders before a flood?

Now it was less than a million miles away; it would be upon us in little more than an hour. The automatic cameras were recording every complete sweep of the radar scan, storing up evidence which was to keep us arguing for years. The magnetic disturbance riding ahead of the cloud had already reached us; indeed, there was hardly an instrument in the Observatory that was not reacting in some way to the onrushing apparition.

I switched to the short-range scanner, and the image of the cloud expanded so enormously that only its central portion was on the screen. At the same time I began to change frequency, turning across the spectrum to differentiate among~ the various levels. The shorter the wave length, the farther you can penetrate into a layer of ionized gas; by this technique I hope to get a kind of X-ray picture of the cloud's interior.

It seemed to change before my eyes as I sliced down through the tenuous outer envelope with its trailing arms -and approached the denser core. "Denser," of course, was a purely relative word; by terrestrial standards even its most closely packed regions were still a fairly good vacuum. I had almost reached the limit of my frequency band, and could shorten the wave length no farmer, when I noticed the curious, tight little echo not far from the center of the screen.

It was oval and much more sharp-edged than the knots of gas" we had watched adrift in the cloud's fiery streams. Even in that first glimpse, I knew that here was something very strange and outside all previous records of solar phenomena. I watched it for a dozen scans of the radar beam, then called my assistant away from the radiospectrograph, with which he was analyzing the velocities of the swirling gas as it spun toward us.

"Look, Don," I asked him, "have you ever seen anything like that?"

"No," he answered after a careful examination. "What holds it together? It hasn't changed its shape for the last two minutes."

"That's what puzzles me. Whatever it is, it should have started to break up by now, with all that disturbance going on around it. But it

seems as stable as ever."

"How big would you say it is?"

I switched on the calibration grid and took a quick reading.

"It's about five hundred miles long, and half that in width."

"Is this the largest picture you can get?"

"I'm afraid so. We'll have to wait until it's closer before we can see what makes it tick."

Don gave a nervous little laugh.

"This is crazy," he said, "but do you know something? I feel as if I'm looking at an amoeba under a microscope."

I did not answer; for, with what I can only describe as a sensation of intellectual vertigo, exactly the same thought had entered my mind.

We forgot about the rest of the cloud, but luckily the automatic cameras kept up their work, and no important observations were lost. From now on we had eyes only for that sharp-edged lens of gas that was growing minute by minute as it raced toward us. When it was no farther away than is the moon from Earth, it began to show the first signs of its internal structure, revealing a curious mottled appearance that was never quite the same on two successive sweeps of the scanner.

By now, half the Observatory staff had joined us in the radar room, yet there was complete silence as the oncoming enigma grew swiftly across the screen. It was coming straight toward us; in a few minutes it would hit Mercury somewhere in the center of the daylight side, and that would be the end of it—whatever it was. From the moment we obtained our first really detailed view until the screen became blank again could not have been more than five minutes; for every one of us, that five minutes will haunt us all our lives.

We were looking at what seemed to be a translucent oval, its interior laced with a network of almost invisible lines. Where the lines crossed, there appeared to be tiny, pulsing nodes of light; we could never be quite sure of their existence because the radar took almost a minute to paint the complete picture on the screen—and between each sweep the object moved several thousand miles. There was no doubt, however, that the network itself existed; the cameras settled any arguments about that.

So strong was the impression that we were looking at a solid object that I took a few moments off from the radar screen and hastily focused one of the optical telescopes on the sky. Of course, there was nothing to be seen—no sign of anything silhouetted against the sun's pock-marked disk. This was a case where vision failed completely and only the electrical senses of the radar were of any use. The thing that was coming toward us out of the sun was as transparent as air—and far more tenuous.

As those last moments ebbed away, I am quite sure that every one of us had reached the same conclusion—and was waiting for someone to say it first. What we were seeing was impossible, yet the evidence was there before our eyes. We were looking at life, where no life could exist…

The eruption had hurled the thing out of its normal environment, deep down in the flaming atmosphere of the sun. It was a miracle that it had survived its journey through space; already it must be dying, as the forces that controlled its huge, invisible body lost their hold over the electrified gas which was the only substance it possessed.

Today, now that I have run through those films a hundred times, the idea no longer seems so strange to me. For what is life-but organized energy? Does it matter *what* form that energy takes—whether it is chemical, as we know it on Earth, or •purely electrical, as it seemed to be here? Only the pattern is important; the substance itself is of no significance. But at the time I did not think of this; I was conscious only of a vast and overwhelming wonder as I watched this creature of the sun live out the final moments of its existence.

Was it intelligent? Could it understand the strange doom that had befallen it? There are a thousand such questions that may never be answered. It is hard to see how a creature born in the fires of the sun itself could know anything of the external universe, or could even sense the existence of something as unutterably cold as rigid nongaseous matter. The living island that was falling upon us from space could never have conceived, however intelligent it might be, of the world it was so swiftly approaching.

Now it filled our sky—and perhaps, in those last few seconds, it knew that something strange was ahead of it. It may have sensed the far-flung magnetic field of Mercury or felt the tug of our little world's gravitational pull. For it had begun to change; the luminous lines that must have been what passed for its nervous system were clumping together in new patterns, and I would have given much to know their meaning. It may be that I was looking into the brain of a mindless beast in its last convulsion of fear—or of a godlike being making its peace with the universe.

Then the radar screen was empty, wiped clean during a single scan of the beam. The creature had fallen below our horizon, and was hidden from us now by the curve of the planet. Far out in the burning dayside of Mercury, in the inferno where only a dozen men have ever ventured and fewer still come back alive, it smashed silently and invisibly against the seas of molten metal, the hills of slowly moving lava. The mere impact could have meant nothing to such an entity* what it could not endure was its first contact with the inconceivable cold of solid matter.

Yes, *cold*. It had descended upon the hottest spot in the solar system, where the temperature never falls below several hundred degrees Fahrenheit and sometimes approaches thousand. And that was far, far colder to it than the antarctic winter would be to a naked man.

We did not see it die, out there in the freezing fire; it was beyond the reach of our instruments now, and none of them recorded its end. Yet every one of us knew when that moment came, and that is why we are not interested when those who have seen only the films and tapes tell us that we were watching some purely natural phenomenon.

How can one explain what we felt, in that last moment when half our little world was enmeshed in the dissolving tendrils of that huge but immaterial brain? I can only say that it was a soundless cry of anguish, a death pang that seeped into our minds without passing through the gateways of the senses. Not one of us doubted then, or has ever doubted since, that he had witnessed the passing of a giant.

We may have been both the first and the last of all men to see so mighty a fall. Whatever *they* may be, in their unimaginable world within the sun, our paths and theirs may never cross again. It is hard to see how we can ever make contact with them, even if their intelligence matches ours.

And does it? It may be well for us if we never know the answer. Perhaps they have been living there inside the sun since the universe was born and have climbed to peaks of wisdom that we shall never scale. The future may be theirs, not ours; already they may be talking across the light-years to their cousins in other stars.

One day they may discover us, by whatever strange senses they possess, as we circle around their mighty, ancient home, proud of our knowledge and thinking ourselves lords of creation. They may not like what they find, for to them we should be no more than maggots, crawling upon the skins of worlds too cold to cleanse themselves from the corruption of organic life.

And then, if they have the power, they will do what they consider necessary. The sun will put forth its strength and lick the faces of its children; and thereafter the planets will go their way once more as they were in the beginning—clean and bright… and sterile.